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MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES  
MONTHLY ACTIVITIES REPORT OF THE AIR QUALITY BUREAU

January 1977

STATE DOCUMENTS

JUL 8 '77

1. Highlights

Significant time spent on Columbia Falls and Poplar River meteorological studies.

A penalty of \$21,500 was received from the Anaconda Company for violations of ambient air quality standards.

Preparation of a contract proposal to the Department of State Lands for background study for the ASARCO Troy project.

2. Ambient Air Quality Network

## Standards Exceeded:

SO<sub>2</sub>

Water Tower, E. Helena, 1 excursion, Fed. 3-hr std.  
Kennedy Park, E. Helena, 1 excursion, Fed. 3-hr std.  
Saddle Mountain, E. Helena, 20 excursions, MT 1-hr std.  
Saddle Mountain, E. Helena, 1 excursion, MT 24-hr std.  
Saddle Mountain, E. Helena, 1 excursion, Fed. 24-hr. std.  
Mill Creek, Anaconda, 2 excursions, MT 1-hr. std.  
Hiway Jct., Anaconda, 20 excursions, MT 1-hr. std.  
Hiway Jct., Anaconda, 2 excursions, MT 24-hr. std.  
Hiway Jct., Anaconda, 2 excursions, Fed. 24-hr. std.  
Hiway Jct., Anaconda, 3 excursions, Fed. 3-hr. std.  
C-Hill, Anaconda, 6 excursions, MT 1-hr. std.

## Total Suspended Particulates

Silver Bow General Hospital, Butte, 1 excursion MT 24-hr. std.  
Silver Bow General Hospital, Butte, 2 excursions Fed 24-hr. std.

## Air Stagnation Advisories:

An Air Stagnation Advisory was in effect for Montana West of the Continental Divide 16 days of the month. No action was taken on the open burning program as all burning has stopped for the season.

## Laboratory Status:

Total determinations for month 129  
Total samples for month 120

## Developments:

Set up CO analyzer in Missoula; analyzer on line and recording valid data.

Calibration of SO<sub>2</sub> monitors in Helena and Anaconda. Routine calibration and repair of recorders and analyzers in state.

MSB AUG 31 77

### 3. Permits and Tax Credits

#### Construction Permits:

##### Applications:

Francis Tindall Construction, McCone County, gravel crusher  
Powder River Nursing Home, Broadus, Kewanee Boiler  
Thunderbird Resources, Inc., Cut Bank, hydrotreating and reforming process units  
Empire Sand and Gravel, Treasure Co., asphalt batch plant  
Empire Sand and Gravel, Park Co., asphalt batch plant  
Empire Sand and Gravel, Toole County, asphalt batch plant  
Empire Sand and Gravel, Toole County, portable gravel crusher  
Empire Sand and Gravel, Musselshell, Rosebud, Petroleum, Fergus, Judith  
Basin Counties, portable gravel crusher  
Peter Kiewit Sons', Lewis and Clark, portable hot mix asphalt plant  
Peter Kiewit Sons', Prairie County, portable hot mix asphalt plant

##### Approved:

Exxon Co., U.S.A., Billings, fluid coking unit  
Nalco Chemical Co., Glendive, Storage and transfer of specialty chemicals  
Champion Building Products, Silver City, replace existing tepee burner  
Wicken's Brothers, Rosebud County, portable gravel crushing plant  
Wicken's Brothers, Carbon County, portable gravel crushing plant  
Francis Tindall Construction, McCone County, gravel crusher  
Continental Oil Co., Billings, vacuum unit vent gas incinerator  
Empire Sand and Gravel, Treasure Co., asphalt batch plant  
Empire Sand and Gravel, Park Co., asphalt batch plant  
Empire Sand and Gravel, Toole County, asphalt batch plant  
Empire Sand and Gravel, Toole County, portable gravel crusher  
Empire Sand and Gravel, Musselshell, Rosebud, Petroleum, Fergus, Judith  
Basin Counties, portable gravel crusher  
Peter Kiewit Sons', Lewis and Clark Co., portable hot mix asphalt plant  
Peter Kiewit Sons', Prairie County, portable hot mix asphalt plant

#### Tax Credits:

Anaconda's latest request is still being reviewed.

### 4. Variance Status

#### Current Variances:

ASARCO, Inc., E. Helena, SO<sub>2</sub>, expires 6/30/77  
Anaconda Aluminum Co., Columbia Falls, F<sup>-</sup> and particulate, expires 7/1/77

#### New or Renewed:

The SO<sub>2</sub> variance for The Anaconda Company was renewed at the January 21 Board meeting. It will expire on June 30, 1977.

Anaconda's application for a variance from the visibility rule for the smelter has not been scheduled for hearing.



Anaconda's application for a variance from the particulate emission rule for the foundry at Anaconda has not been scheduled for hearing.

5. Enforcement Action

Citations:

None

Notices of Violation:

None

Order for Corrective Action:

None

Court Actions:

Clayton Berg, Helena, open burning, settled out of court, received \$150 fine.

6. Tepee Burner and Open Burning

Charts and logs from tepee burners in the state are being evaluated.

Received a Petition for Rule change for open burning from Flathead County.

Tepee Burner Status:

No. at Start	39
New Starts	0
Shutdowns	0
No. at End	39

Open Burning Permits:

Kalispell Office - 49	Sanders County - 5
Cascade County - 5	Yellowstone County - 16
Lake County - 34	Rest of State - 215
Missoula County - 16	Total Permits - 340

7. Source Tests Performed

Agency Source Tests:

None

Non-Agency Source Tests:

Colstrip Unit No. 1, Jan. 18-19, conducted by Montana Power Company, observed by Air Quality Bureau staff.



8. Field Investigations

City-County Air Quality Lab, Missoula, inspection  
Yellowstone Pines, Livingston, tepee burner, inspection  
Burkland Studs, Livingston, tepee burner, inspection  
Park Lumber, Livingston, tepee burner, inspection  
Willow Creek Lumber, Livingston, tepee burner, inspection  
Brand S Lumber, Livingston, tepee burner, inspection  
Louisiana Pacific, Col. Falls, boiler documentation  
Anaconda Aluminum, Col. Falls, dump fire  
Plum Creek, Pablo, tepee burner documentation  
C & C Plywood, Evergreen, chip pile fire  
C & C Plywood, Evergreen, tepee burner documentation  
Plum Creek # 1 & 3, Columbia Falls, tepee burner documentation  
Plum Creek Fiberboard, Col. Falls, malfunction in cyclone bypass  
Stoltze Land and Lumber, Halfmoon, tepee burner documentation  
Tony Patrick's paint shop, Butte, inspection

9. Complaints

Miles City Rendering, odor, odor reducing agent will be started soon.  
Brand S Lumber, fly ash, inspection made  
Plum Creek Fiberboard plant, emitting wood particles, corrected  
Idaho Cedar Sales, Superior, fallout, preliminary investigation shows no need  
for further action.  
Tony Patrick Paint Shop, Butte, odor, under investigation

10. Data Processing Services

Ambient Data Summary:

Monthly report of December air quality data attached.

Emissions Inventory Status:

No source updates were received or processed this month. Updates were performed to the computer system itself.

Five new computer programs were added to the list.

Prevention of Significant Deterioration:

Attended a public hearing at Lame Deer on January 17 on the Northern Cheyenne redesignation proposal.

Modeling:

Time spent on AQMA modeling for Billings. Time also spent processing air quality data.





Worked out a diffusion model on Anaconda Co. and ASARCO for their lead emissions to determine the predicted concentrations in the populated areas. Results showed concentrations for less than those measured indicating the emission sources were not adequately defined.

11. Environmental Impact Statements

Agency Impact Determinations:

None

Other Agency EIS's Reviewed:

None

12. Status of Studies, Contracts and Reports

Work was performed on the meteorological study at Columbia Falls. Additional instruments and a sampling trailer were installed.

A meteorologist was hired and started work on the Poplar River Study. Work was performed in preparing a trailer for the study and in instructing the meteorologist in the use of the instruments and in the reporting procedures.

Updated NO-NO<sub>2</sub>-NO<sub>x</sub> calibration procedures. Wrote new calibration data sheets for field use.

Audit on SO<sub>2</sub> and total sulfur channel of Hoerner Waldorf Frenchtown Gas Chromatograph.

Health Study, Phase I - The Bureau of Records and Statistics will complete this phase of the study by March 1, 1977.

Received one report from Anaconda Company as required. The second report is to be submitted by March 1, 1977.

AQMA's, Billings and Missoula progressing well, S. E. Coal area and Butte begun.

13. Schools and Training

None

14. Public Hearings and Meetings

Public Hearings:

Lame Deer, January 17, Northern Cheyenne redesignation.

Board of Health, January 21, granted SO<sub>2</sub> variance extension to The Anaconda Co.



Meetings Attended:

Brand S Lumber, Livingston  
State Air Shed Meeting, Missoula  
Dr. Schimke, health study legislation, Missoula  
John Casebolt, Montana Lung Association, health study  
Anaconda Co., Helena  
Decker Coal Co., permit for coal load out facility, Helena  
Highway Dept. Impact Evaluation Group, Helena  
AQMA TAC, Billings  
AQMA, Missoula  
Rockwell International, Helena  
State Lands and ASARCO, ASARCO Troy project, Helena  
EPA, Compliance Data System, Helena

Intra-Staff Meetings:

Staff meetings (2)  
Billings AQMA, Helena  
Hoerner Waldorf monitoring, Helena  
Legal Division and Anaconda Aluminum, Helena  
PIQ's, Helena

15. Public Information Requests

Rules - 5  
Clean Air Act - 4  
General - 10

16. Fiscal Status

Grants Received:

None

Monthly Expenditures:

Program	Budget	Expenditures		Funds Remaining
		January	Year-to-Date	
0630	454,176	30,549.33	226,100.59	228,075.41
0631	74,400	5,653.50	12,241.00	62,159.00
0633	70,499	6,022.23	53,456.05	24,526.71
0681	76,500	7,178.39	25,454.61	51,045.39

17. Other

Time spent by all staff on Personnel Information Questionnaires as required by the Department of Administration.



## MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

## MONTHLY SUMMARY OF AIR QUALITY DATA

December, 1976

Pollutants: Misc. Continuous Data

Units: Parts Per Million

Page 1 of 2

AQCR	AREA Site Location	HIGH READING			ARITHMETIC AVERAGE		Comments
		Current Month	Year-to-Date	Running Year	Year-to-Date	No. of Days of Data	
140	Carbon Monoxide 17th & S. 27th Billings	12.50	27.50	27.50	2.363	12	
140	Hydrocarbons 27th & Montana Billings	7.20	10.20	10.20	2.690	12	
143	BN Site Colstrip	2.00	3.50	3.50	1.604	12	
143	Meth. Hydrocarbons BN Site Colstrip	1.80	2.00	2.00	1.593	12	
143	Non-Meth. Hydrocarbons BN Site Colstrip	0.30	2.00	2.00	0.012	12	
143	Nitric Oxide BN Site Colstrip						
143	Nitrogen Dioxide BN Site Colstrip						
143	Oxides of Nitrogen BN Site Colstrip						

\*\*\* Data not available at time of report  
\* Instrument problems

Pollutants: Misc. Continuous Data

Units: Parts Per Million

AQCR	AREA Site Location	HIGH READING			ARITHMETIC AVERAGE		Comments
		Current Month	Year-to-Date	Running Year	Year-to-Date	No. of Days of Data	
140	Ozone 17th & Montana Billings	0.03	0.10	0.10	0.017	12	
143	BN Site Colstrip						
140	Sulfur Dioxide 17th & Montana Billings						
140	Laurel Farm Billings	0.74	0.80	0.80	0.061	11	20 excur. Fed 24-hr std.
142	Laurel Water Plt. Billings						
142	East Stack E. Helena	0.26	0.44	0.44	0.009	12	1 excur. MT 1-hr. std.
142	Microwave E. Helena	0.34	1.08	1.08	0.012	12	5 excur. MT 1-hr. std.
142	Saddle Mountain E. Helena	0.56	0.58	0.58	0.008	12	1 excur. MT 24-hr. std.
142	C-Hill Anaconda	0.63	2.54	2.54	0.016	12	1 excur. MT 1-hr. std.
142	Hiway Jct. Anaconda	1.58	1.58	1.58	0.023	12	5 excur. Fed 24-hr. std.
142	Mill Creek Anaconda	1.36	1.36	1.36	0.014	12	1 excur. Fed. 24-hr. std.
142	Post Office Anaconda						
142	Cogswell Bldg. Helena	0.26	0.38	0.38	0.002	12	1 excur. MT 1-hr. std.
143	BN Site Colstrip						

Pollutants: Misc. Bubblers Data

Units: Parts Per Million

AQCR	AREA Site Location	HIGH READING			ARITHMETIC AVERAGE		Comments
		Current Month	Year-to-Date	Running Year	Year-to-Date	No. of Days of Data	
140	Sulfur Dioxide Lockwood School Billings	0.043	0.201	0.201	0.022	12	
140	3/8 Mt. NE Coop Billings	0.232	0.232	0.232	0.010	10	
143	Scooby Daniels Co.						
143	Pt. Peck McCone Co.						
143	Lane Deer Rosebud Co.						
143	BN Site Rosebud Co.						
143	McInley Site Rosebud Co.						
143	Nitrogen Dioxide Scooby Daniels Co.						
143	Pt. Peck McCone Co.						
143	Lane Deer Rosebud Co.						
143	BN Site Rosebud Co.						
143	McInley Site Rosebud Co.						

Pollutants: Total Suspended Particulates

Units: Micrograms Per Cubic Meter

AQCR	AREA Site Location	HIGH READING			GEOMETRIC AVERAGE		Comments
		Current Month	Year-to-Date	Running Year	Year-to-Date	No. of Days of Data	
140	Morton Res. Big Horn Co.	132	208	208	60.1	12	excur. Fed. sec. std.
140	Warren Ranch Big Horn Co.	20	146	146	24.2	12	
140	Lockwood School Billings	37	141	141	45.1	12	
140	KGBL Billings	31	154	154	32.5	12	
140	City Hall Billings	88	200	200	63.8	12	2 excur. Fed. sec. std.
140	Grand Ave. School Billings	135	199	199	58.0	12	
140	Burnstead Drive Billings	152	1117	1117	86.1	3	1 excur. Fed. sec. std.
140	Laurel Jr. High Laurel	48	108	108	33.5	12	
141	Hospital Roof Great Falls	68	124	124	36.2	12	
141	Pipe Sta. #1 Great Falls	202	202	202	74.2	12	7 excur. Fed. sec. std.
142	Sil. Flow Gen. Hous. Butte	109	173	173	53.5	12	
142	Atkins Res. Butte	31	306	306	45.4	12	
142	Richer Res. Butte	42	42	42	17.8	12	
142	Hiway Jct. Anaconda	250	250	250	40.9	12	2 excur. Fed. sec. std.
142	McInley Res. Granite Co.	51	147	147	24.2	12	



## December 1976

Pollutant: Total Suspended Particulate      Units: Micrograms per cubic meter

AREA		HIGH READING			GEOMETRIC MEAN		
ACCR	Site Location	Current Month	Year-to-Date	Running Year	Year-to-Date	No. of Years of Data	Comments
142	Microwave Jefferson Co. 212 Pacific St. Los & Clark	55	84	84	24.2	12	
	Tiernoy Res. S11. 80w Co.	187	187	187	74.9	12	1 excur. Fed. sec. std.
143	Littlefield Miles City Glendive	64	202	202	31.3	12	
	Dawson Co. Lindsay (107349)	10	87	87	19.0	11	
	Dawson Co. Lindsay (107312)	102	102	102	27.4	11	
	Dawson Co. Pt. Peck	7	38	38	13.0	12	
	McCone Co. Broadus	4	60	60	14.5	12	
	Powder River Co. BN Site	91	166	166	21.1	12	
	Goldstrip McBee Site	11	62	62	15.6	12	
	Goldstrip	93	104	104	28.3	12	
144	High School Col. Falls	23	86	86	16.5	12	
	Courthouse Missoula	251	294	294	97.7	10	2 excur. Fed. sec. std.
	JB Field Missoula	342	386	386	86.1	12	4 excur. Fed. pri. std.
	Frenchtown	214	214	214	43.7	12	8 excur. Fed. sec. std.
		143	217	217	34.6	12	

Pollutant: Misc. Indicators Date:

	AREA	HIGH READING			ARITHMETIC AVERAGE		
P/CN	Site Location	Current Month	Year-to-Date	Pumping Year	Year-to-Date	% of Month of Data	Comments
	Dustfall Tons/sq. mile						
141	Mainland Station Great Falls Fire Sta. #1 Great Falls	25.93	37.73	37.73	18.86	12	
	Sulfuric Acid - milligrams SO <sub>2</sub> /10 sq. cm.						
140	318 mi. NE Coop. Billings	3.22	4.80	4.80	2.650	11	
	E of Laurel Billings	2.52	3.62	3.62	1.473	12	
	Hi-Ball Trucking Billings	0.94	1.41	1.41	0.879	11	
141	Stock Car Track Great Falls						
	Phillips Ref E Great Falls						
	Phillips Ref N 1 Great Falls						
142	Microwave E. Helena	0.47	0.47	0.47	0.304	12	
	Highway Jct. Anaconda	2.55	2.57	2.57	1.009	11	
	C-Hill Anaconda	0.39	1.04	1.04	0.672	6	
143	SW Site Colstrip	0.06	0.12	0.12	0.052	9	
	McRae Site Colstrip	0.01	0.05	0.05	0.005	11	

\* Sample lost or invalidated

Pollutants: Misc. Indicators

Units

AQCR	AREA	HIGH READING		ARITHMETIC AVER.		Comments
	Site Location	Micro- Mach	Year- to-Date	Running Year- to-Date	No. of Days	
		micrograms/sq.		in./30 d.ys		
142	Fluoride Papers Mullerburg Powell Co. Lahmans Powell Co. N. Ac. Hwy. Powell Co. Ramsay West Sill. Bow. Co. ESE Stauffer Sill. Bow Co.	0.04 0.03 0.05 1.21 1.45	2.93 1.38 2.87 1.75 7.87	2.93 1.38 2.87 1.03 7.87	0.592 0.282 0.578 1.03 3.222	6 6 12 12
143	NW Site Colstrip Weber Site Colstrip	0.02 0.01	0.02 0.01	0.02 0.01	0.015 0.006	8 8
144	Dehnbons Mt. Box Flathead Co. Tecknitch #10 Flathead Co. Glacier Park #1 Glac. Nat. Pk. Glacier Park #2 Glac. Nat. Pk.	0.18 0.21 0.53	1.71 0.58 0.58	1.71 0.58 0.58	0.782 0.299 0.359	12 11 11
		micrograms/sq.		in./30 d.ys		
142	Fluoride Plates Burnt Canyon Deer Lodge Co. N. Ac. Hwy. Powell Co.	2.73 0.11	2.73 2.84	2.73 2.84	1.757 1.475	7 2

Pollutant: Misc. Indicators

Units:

AREA		HIGH READING			ARITHMETIC AVER.		Comments
AQCR	Site Location	Current Month	Year-to-Date	Running Year	Year-to-Date	No. of Cons. of Data	
	Fluoride Plates	micrograms/sq.	cm./30 days				
142	NW on Hill	0.06	2.48	2.48	0.482	6	
	Powell Co.						
	Ransay Nest	1.35	2.17	2.17	1.309	9	
	S11. Bow Co.						
	ESE Stauffer	1.75	10.92	10.92	3.887	9	
	S11. Bow Co.						
143	RN Site	0.0	0.0	0.0	0.0	9	
	Colstrip						
	McRae Site	0.0	0.0	0.0	0.0	12	
	Colstrip						
144	Teakettle #10			---			
	Flathead Co.						
	Teakettle #6			---			
	Flathead Co.						
	Amaconda S	6.25	8.82	8.82	4.99	11	
	Flathead Co.						
	Glacier Park #1	0.31	0.72	0.72	0.412	12	
	Glacier Nat Pk						
	Glacier Park #2	0.72	0.81	0.81	0.445	11	
	Glacier Nat Pk						

